



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0142; Directorate Identifier 2010-NM-275-AD]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705), and CL-600-2D24 (Regional Jet Series 900) airplanes. This proposed AD was prompted by reports of failures of a hydraulic accumulator's screw-cap/end cap while on the ground that resulted in loss of use of that hydraulic system and in high-energy impact damage to adjacent systems and structures. This proposed AD would require an inspection for part numbers; repetitive inspections for any cracking of certain hydraulic system accumulators, and replacement, if necessary; and revising the maintenance program to include a life limit for certain hydraulic system accumulators. We are proposing this AD to prevent loss of use of a hydraulic system, which could result in reduced controllability of the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; e-mail thd.crj@aero.bombardier.com; Internet <http://www.bombardier.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address

for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7318; fax (516) 794-5531.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-0142; Directorate Identifier 2010-NM-275-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

The Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2010-35R1, dated June 28,

2011 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

Seven cases of on-ground hydraulic accumulator screw cap/end cap failure have been experienced on CL-600-2B19 aeroplanes resulting in loss of the associated hydraulic system and high-energy impact damage to adjacent systems and structure. The lowest number of flight cycles accumulated at the time of failure, to date, has been 6,991 flight cycles.

Although there have been no failures to date on any CL-600-2C10, CL-600-2D15 or CL-600-2D24 aeroplanes, similar accumulators to those installed on the CL-600-2B19, are installed. The part numbers (P/Ns) of the accumulators installed on CL-600-2C10, CL-600-2D15 and CL-600-2D24 aeroplanes are 900096-1 (Hydraulic System No. 1 and Hydraulic System No. 2 accumulators), 900097-1 (Hydraulic System No. 3 accumulator) and 08-60204-001 (Inboard Brake and Outboard Brake accumulators).

A detailed analysis of the calculated line of trajectory of a failed screw cap/end cap for each of the accumulators has been conducted, resulting in the identification of several areas where systems and/or structural components could potentially be damaged. Although all of the failures to date have occurred on the ground, an in-flight failure affecting such components could potentially have an adverse effect on the controllability of the aeroplane.

This [Canadian] directive gives instructions to conduct [an inspection to determine if certain hydraulic accumulators are installed and, if necessary,] repetitive ultrasonic inspections [for cracking] of the Hydraulic System No. 1, Hydraulic System No. 2, Hydraulic System No. 3, Inboard Brake and Outboard Brake accumulators, P/Ns 900096-1, 900097-1, and 08-60204-001, that are not identified by the letter “M” or “T” after the S/N [serial number] on the identification plate.

* * * * *

Required actions include revising the maintenance program to include a life limit for certain accumulators, and for airplanes on which cracking is found during an ultrasonic inspection, replacing the accumulator with a new accumulator containing the letter “M” or “T”, as applicable, after the serial number on the identification plate or with a new accumulator with a different part number, and eventual replacement of certain accumulators with new accumulators. You may obtain further information by examining the MCAI in the AD docket.

Relevant Service Information

Bombardier has issued the following service information.

- Bombardier Alert Service Bulletin A670BA-29-011, Revision A, dated July 27, 2010, including Appendix A, Revision A, dated July 26, 2010.
- Bombardier Alert Service Bulletin A670BA-29-012, including Appendix A, Revision A, dated July 27, 2010.
- Bombardier Service Bulletin A670BA-32-021, Revision C, dated July 27, 2010, including Appendix A, Revision A, dated October 18, 2007.
- Bombardier Service Bulletin 670BA-29-013, Revision A, dated July 27, 2010, including Appendix A, dated January 29, 2010.
- Bombardier Service Bulletin 670BA-32-026, Revision A, dated July 27, 2010, including Appendix A, dated January 29, 2010.
- Bombardier Service Bulletin 670BA-29-014, dated December 22, 2010.
- Bombardier Service Bulletin 670BA-29-015, dated December 22, 2010.
- Bombardier Service Bulletin 670BA-32-028, dated December 22, 2010.

- Tasks 29-11-11-000-801 and 29-11-11-400-801 of Section 1.3, Safe Life Components, of Part 2, Airworthiness Limitations, of the Bombardier CL-600-2C10, CL-600-2D15, CL-600-2D24, CL-600-2E25 Maintenance Requirements Manual, CSP B-053, Revision 11, dated October 20, 2010.

The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

FAA's Determination and Requirements of This Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

Costs of Compliance

Based on the service information, we estimate that this proposed AD would affect about 389 products of U.S. registry. We also estimate that it would take up to 21 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Required parts would cost about \$8,988 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than

estimated here. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be up to \$4,190,697, or \$10,773 per product, per inspection cycle.

In addition, we estimate that any necessary follow-on actions would take up to 7 work-hours and require parts costing \$8,988, for a cost of \$9,583 per product. We have no way of determining the number of products that may need these actions.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States,

or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new AD:

Bombardier, Inc.: Docket No. FAA-2012-0142; Directorate Identifier

2010-NM-275-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the airplanes identified in paragraphs (c)(1) and (c)(2) of this AD, certificated in any category.

(1) Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, with serial number (S/N) 10003 through 10314 inclusive.

(2) Bombardier, Inc. Model CL-600-2D15 (Regional Jet Series 705) and CL-600-2D24 (Regional Jet Series 900) airplanes, with S/N 15001 through 15259 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 29: Hydraulic Power, and 32: Landing Gear.

(e) Reason

This AD was prompted by reports of failures of a hydraulic accumulator's screw-cap/end cap while on the ground that resulted in loss of use of that hydraulic system and in high-energy impact damage to adjacent systems and structures. We are issuing this AD

to prevent loss of use of a hydraulic system, which could result in reduced controllability of the airplane.

(f) Compliance

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

(g) Inspection for Part Numbers (P/Ns)

At the applicable time specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD, inspect the hydraulic accumulators in the hydraulic systems No. 1, No. 2, and No. 3, and the inboard and outboard brake systems, to determine the part number of the accumulator. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the accumulator can be conclusively determined from that review.

(1) For an accumulator with more than 4,500 total flight cycles as of the effective date of this AD, inspect that accumulator within 500 flight cycles after the effective date of this AD.

(2) For an accumulator with 4,500 or less total flight cycles as of the effective date of this AD, inspect that accumulator before it has accumulated 5,000 total flight cycles.

(3) If it is not possible to determine the total flight cycles accumulated on an accumulator, inspect that accumulator within 500 flight cycles after the effective date of this AD.

(h) Inspection for Letter Designation after the Serial Number

If, during an inspection required by paragraph (g) of this AD, an accumulator having P/N 900096-1 (for hydraulic systems No. 1 and No. 2 accumulators), 900097-1 (for hydraulic system No. 3 accumulator), or 08-60204-001 (for inboard and outboard brake accumulators) is found, at the applicable time specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD, do an inspection of the identification plate on the hydraulic accumulator to determine if an “M” (for hydraulic system accumulators) or a “T” (for brake system accumulators) follows the serial number on the identification plate. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number and the letter of the accumulator can be conclusively determined from that review.

Note 1 to paragraphs (h), (i), (k), (l)(2), and (m): The letter “M” after the serial number on the identification plate is applicable to accumulators, P/Ns 900096-1 and 900097-1, on hydraulic systems No. 1, No. 2, and No. 3. The letter “T” after the serial number on the identification plate is applicable to accumulators, P/N 08-60204-001, on the brake system.

(i) Initial Ultrasonic Inspections of Hydraulic System No. 1, Hydraulic System No. 2, Hydraulic System No. 3, Inboard Brake, and Outboard Brake Accumulators

If, during any inspection required by paragraph (h) of this AD, any accumulator without the letter “M” (for hydraulic system accumulators) or a “T” (for brake system accumulators) after the serial number is found, at the applicable time specified in paragraph (g)(1), (g)(2), or (g)(3) of this AD: Do an ultrasonic inspection of the inner shoulders of the accumulator screw-cap for cracking, in accordance with Part B of the

Accomplishment Instructions of the applicable Bombardier service bulletin identified in paragraphs (i)(1), (i)(2), and (i)(3) of this AD, and at the internal threads of the screw-caps, in accordance with the Accomplishment Instructions of the applicable Bombardier service bulletin identified in paragraphs (i)(4), (i)(5), and (i)(6) of this AD.

(1) For hydraulic system No.1, and hydraulic system No.2 accumulators: Bombardier Alert Service Bulletin A670BA-29-011, Revision A, dated July 27, 2010, including Appendix A, Revision A, dated July 26, 2010.

(2) For hydraulic system No.3 accumulators: Bombardier Alert Service Bulletin A670BA-29-012, including Appendix A, Revision A, dated July 27, 2010.

(3) For inboard brake, outboard brake accumulators: Bombardier Service Bulletin A670BA-32-021, Revision C, dated July 27, 2010, including Appendix A, Revision A, dated October 18, 2007.

(4) For hydraulic system No.1 accumulators: Bombardier Service Bulletin 670BA-29-013, Revision A, dated July 27, 2010, including Appendix A, dated January 29, 2010.

(5) For hydraulic system No. 2 accumulators: Bombardier Service Bulletin 670BA-29-013, Revision A, dated July 27, 2010, including Appendix A, dated January 29, 2010.

(6) For inboard brake, outboard brake accumulators: Bombardier Service Bulletin 670BA-32-026, Revision A, dated July 27, 2010, including Appendix A, dated January 29, 2010.

(j) No Cracking Found During Accomplishment of Paragraph (i) of This AD

If no cracking is found during the inspections required by paragraph (i) of this AD, do the actions required by paragraph (l) of this AD.

(k) Any Cracking Found During Accomplishment of Paragraph (i) of This AD

If any cracking is found during the inspections required by paragraph (i) of this AD, before further flight, replace the accumulator with a new accumulator containing the letter “M” or “T”, as applicable, after the serial number on the identification plate, in accordance with the Accomplishment Instructions of the applicable service bulletin identified in paragraphs (i)(1) through (i)(6) of this AD, or replace the accumulator with a new accumulator as specified in paragraphs (k)(1) through (k)(3) of this AD, as applicable.

(1) For any cracked hydraulic system No.1 or No. 2 accumulator, replace the cracked accumulator with a new accumulator, P/N 900121-1, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-29-014, dated December 22, 2010.

(2) For any cracked hydraulic system No.3 accumulator, replace the cracked accumulator with a new accumulator, P/N 900122-1, in accordance with the replacement specified in paragraph (o) of this AD.

(3) For any cracked inboard brake or outboard brake accumulator replaced the cracked accumulator with a new accumulator, P/N 90006691, in accordance with the replacement specified in paragraph (p) of this AD.

(l) Repetitive Ultrasonic Inspections of Hydraulic System No. 1, Hydraulic System No. 2, Hydraulic System No. 3, Inboard Brake, and Outboard Brake Accumulators

For each accumulator on which no cracking was found during any inspection required by paragraph (i) of this AD, within 500 flight cycles after the previous ultrasonic inspection, inspect the accumulator in accordance with paragraph (i) of this AD.

(1) If no cracking is found, do the actions required by paragraph (l) of this AD and repeat thereafter at intervals not to exceed 500 flight cycles.

(2) If any cracking is found, before further flight, replace the accumulator with a new accumulator containing the letter “M” or “T”, as applicable, after the serial number on the identification plate, in accordance with the Accomplishment Instructions of the applicable service bulletin identified in paragraphs (i)(1) through (i)(6) of this AD, or replace the accumulator with a new accumulator as specified in paragraphs (k)(1), (k)(2), and (k)(3) of this AD, as applicable.

(m) Replacement of Hydraulic System No. 1 and No. 2 Accumulators

For airplanes on which a hydraulic system No. 1 or No. 2 accumulator having P/N 900096-1 without the letter “M” after the serial number is installed: At the applicable time specified in paragraphs (m)(1) and (m)(2) of this AD, replace the accumulator with a new one having P/N 900096-1 with the letter “M” after the serial number; or having P/N 900121-1, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-29-014, dated December 22, 2010.

(1) For an accumulator with more than 19,500 total flight cycles as of the effective date of this AD, replace that accumulator within 500 flight cycles after accomplishing the most recent inspection required by paragraph (i) or (l) of this AD.

(2) For an accumulator with 19,500 or less total flight cycles as of the effective date of this AD, replace that accumulator before it has accumulated 20,000 total flight cycles.

(3) If it is not possible to determine the total flight cycles accumulated on an accumulator, replace that accumulator within 500 flight cycles after accomplishing the most recent ultrasonic inspection required by paragraph (i) or (l) of this AD.

(n) Hydraulic System Safe Life Limit Introduction

Within 60 days after the effective date of this AD, revise the maintenance program to include a safe life limit for the hydraulic system No. 1 and No. 2 accumulators, P/N 900096-1, by incorporating Tasks 29-11-11-000-801 and 29-11-11-400-801 of Section 1.3, Safe Life Components, of Part 2, Airworthiness Limitations, of the Bombardier CL-600-2C10, CL-600-2D15, CL-600-2D24, CL-600-2E25 Maintenance Requirements Manual, CSP B-053, Revision 11, dated October 20, 2010.

(o) Replacement of Hydraulic System No. 3 Accumulator

Within 4,000 flight cycles or 24 months after the effective date of this AD, whichever occurs first, replace any hydraulic system No. 3 accumulator having P/N 900097-1 with a new accumulator having P/N 900122-1, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-29-015, dated December 22, 2010.

(p) Replacement of Inboard or Outboard Brake System Accumulators

Within 4,000 flight cycles or 24 months after the effective date of this AD, whichever occurs first, replace any inboard or outboard brake system accumulator having P/N 08-60204-001 with a new accumulator having P/N 90006691, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-32-028, dated December 22, 2010.

(q) Credit for Actions Accomplished in Accordance with Previous Service Information

(1) Actions done before the effective date of this AD using Part B of the Accomplishment Instructions of the Bombardier service bulletin identified in paragraph (q)(1)(i), (q)(1)(ii), (q)(1)(iii), (q)(1)(iv), or (q)(1)(v) of this AD is acceptable for compliance with the corresponding requirements of this AD.

(i) Bombardier Alert Service Bulletin A670BA-29-011, dated October 18, 2007.

(ii) Bombardier Alert Service Bulletin A670BA-29-012, dated March 13, 2008.

(iii) Bombardier Alert Service Bulletin A670BA-32-021, dated November 21, 2006.

(iv) Bombardier Alert Service Bulletin A670BA-32-021, Revision A, dated March 7, 2007.

(v) Bombardier Alert Service Bulletin A670BA-32-021, Revision B, dated October 18, 2007.

(2) Actions done before the effective date of this AD using the Accomplishment Instructions of Bombardier Service Bulletin 670BA-29-013, dated January 29, 2010; or

670BA-32-026, dated January 29, 2010; are acceptable for compliance with the corresponding requirements of this AD.

(r) Terminating Actions

Accomplishing the actions required by paragraphs (m), (n), (o), and (p) of this AD terminates the requirements of this AD for the accumulator at that location only.

(s) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office, ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of

Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(t) Related Information

Refer to MCAI Canadian Airworthiness Directive CF-2010-35R1, dated June 28, 2011, and the service information identified in paragraphs (t)(1) through (t)(9) of this AD, for related information.

(1) Bombardier Alert Service Bulletin A670BA-29-011, Revision A, dated July 27, 2010, including Appendix A, Revision A, dated July 26, 2010.

(2) Bombardier Alert Service Bulletin A670BA-29-012, including Appendix A, Revision A, dated July 27, 2010.

(3) Bombardier Service Bulletin A670BA-32-021, Revision C, dated July 27, 2010, including Appendix A, Revision A, dated October 18, 2007.

(4) Bombardier Service Bulletin 670BA-29-013, Revision A, dated July 27, 2010, including Appendix A, dated January 29, 2010.

(5) Bombardier Service Bulletin 670BA-32-026, Revision A, dated July 27, 2010, including Appendix A, dated January 29, 2010.

(6) Bombardier Service Bulletin 670BA-29-014, dated December 22, 2010.

(7) Bombardier Service Bulletin 670BA-29-015, dated December 22, 2010.

(8) Bombardier Service Bulletin 670BA-32-028, dated December 22, 2010.

(9) Tasks 29-11-11-000-801 and 29-11-11-400-801 of Section 1.3, Safe Life Components, of Part 2, Airworthiness Limitations, of the Bombardier CL-600-2C10,

CL-600-2D15, CL-600-2D24, CL-600-2E25 Maintenance Requirements Manual, CSP

B-053, Revision 11, dated October 20, 2010.

Issued in Renton, Washington, on January 26, 2012.

Kalene C. Yanamura,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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